

ABSTRACT OF THE DISCLOSURE

A method and apparatus for communication using a plurality of time slots within a frequency spectrum is described. A fast frequency hopping traffic channel having a set of the plurality of time slots and a first set of hop carrier frequencies is established between a first and a second communication unit. A slow frequency hopping traffic channel having a second set of hop carrier frequencies is established between the first and the second communication unit. Data packets are communicated on one of the time slots from the first communication unit to the second communication unit over the fast frequency hopping traffic channel at a rate of between 1-3 Mb/s. Data packets are communicated from the first to the second communication unit over the slow frequency hopping traffic channel at a rate exceeding 5 Mb/s. An initial location of the slow frequency hopping traffic channel is established according to a slow hop sequence. When a time interval associated with the slow hop sequence has expired the location of the slow frequency hopping traffic channel is adapted according to the slow hop sequence. Data packets are communicated over the fast frequency hopping traffic channel such that initial and adapted locations are avoided. A number of hop carrier frequencies associated with the fast frequency hopping traffic channel are reduced to accommodate the slow frequency hopping channel. The fast frequency hopping traffic channel is established between the first, the second, and a third unit and the slow frequency hopping traffic channel between the second and the third unit. The fast frequency hopping traffic channel then avoids the location of the slow frequency hopping traffic channel. The first communication unit is a master communication unit, the second communication unit is a FFH slave unit, and the third communication unit is a SFH slave unit. A beacon packet is periodically transmitted from the master to the FFH and SFH slave units over the fast frequency hopping traffic channel indicating to the slave units the location of the slow frequency hopping traffic channel.